

**TOWN OF DUNSTABLE, MASSACHUSETTS
STORMWATER MANAGEMENT AND ILLICIT
DISCHARGE REGULATIONS**

Adopted by the Planning Board on
June 15, 2020



TABLE OF CONTENTS

	<u>Page</u>
-	
Section 1. Purpose.....	1
Section 2. Definitions.....	2
Section 3. Authority & Applicability.....	4
Section 4. Administration.....	4
Section 5. Tier I Land Disturbance Permit Procedures and Standards.....	5
Section 6. Tier II Land Disturbance Permit and Procedures.....	7
Section 7. Stormwater Management Plans for Permit Applications.....	9
Section 8. Erosion and Sedimentation Control Plans for Permit Applications.....	12
Section 9. Operation and Maintenance Plans for Permit Applications.....	14
Section 10. Performance and Design Standards for Permit Applicants.....	16
Section 11. Inspection and Site Supervision for Permit Applicants.....	17
Section 12. Surety for projects requiring permits.....	18
Section 13. Final Reports for projects requiring permits.....	18
Section 14. Certificate of Completion for projects requiring permits.....	19
Section 15. Illicit Discharges to the Municipal Storm Drain System and to Watercourses or Waters of the Commonwealth or United States	19
Section 16. Enforcement	20
Section 17 Severability	20

1. PURPOSE

The purpose of these Stormwater Management Regulations (these “Regulations”) is to aid in the consistent and effective implementation of the Town of Dunstable’s General Bylaws, “STORMWATER MANAGEMENT AND EROSION CONTROL BYLAW” and the MUNICIPAL STORMWATER DISCHARGE BYLAW. These Regulations are to protect, maintain and enhance public health, safety, the environment, local water resources and general welfare. These Regulations have been established to provide reasonable guidance for the regulation of design, construction and post-development stormwater runoff facilities for the purpose of protecting local water resources from degradation. It is in the public interest to regulate construction and post-development stormwater runoff discharges in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion and sedimentation, stream channel erosion, and nonpoint source pollution associated with construction site and post-development stormwater by establishing requirements and procedures for the submission and consideration of an application for a Land Disturbance Permit and related documents. Such documents including but not limited to application and review fees, inspection requirements, definitions, and design standards to control the adverse effects of increased stormwater runoff, decreased groundwater recharge, and non-point source pollution associated with new development and redevelopment.

Development of land including loss of vegetative cover to introduce impervious surfaces and other land use changes, permanently alter the hydrologic system of local watersheds by decreasing transpiration, and infiltration and increasing stormwater runoff rates and volumes, causing an increase in flooding, stream channel erosion and sediment transport and deposition. This additional runoff contributes to increased nonpoint source pollution and degradation of receiving waters.

Stormwater management systems that are properly designed utilizing low impact design (LID) techniques and appropriate best management practices (BMPs) can better simulate the natural (existing) hydrologic condition and reduce adverse impacts.

The impacts of construction and post-construction stormwater runoff quantity and quality can adversely affect public safety, public and private property, surface water drinking supply, groundwater resources including drinking water supplies (well), recreation, aquatic habitats, fish and other aquatic life, property values and other uses of lands and waters.

It is in the public interest to regulate construction and post-development stormwater runoff discharges in order to control and minimize increases in stormwater runoff rates and volumes, soil erosion and sedimentation, stream channel erosion, and nonpoint source pollution associated with construction site and post-development stormwater runoff.

These Regulations are also intended to eliminate non-stormwater discharges to the Town of Dunstable’s Municipal Separate Storm Sewer System (MS4). Regulation of illicit connections and discharges to the storm drain system is necessary for the protection of the Town of Dunstable’s natural resources, municipal facilities, general health, safety, welfare and the environment.

2. DEFINITIONS

In addition to the terms defined in the STORMWATER MANAGEMENT AND EROSION CONTROL BYLAW and the MUNICIPAL STORMWATER DISCHARGE BYLAW, these Regulations shall use the following additional terms, defined as follows:

BEST MANAGEMENT PRACTICE (BMP): An activity, procedure, restraint, or structural improvement that helps to reduce the quantity or improve the quality of stormwater runoff.

BYLAW: The STORMWATER MANAGEMENT AND EROSION CONTROL BYLAW approved by Town Meeting on May 9, 2016 and the MUNICIPAL STORMWATER DISCHARGE BYLAW approved by Town Meeting on May 8, 2017.

CONSTRUCTION AND WASTE MATERIALS: Excess or discarded building or site materials, including but not limited to concrete truck washout, chemicals, litter and sanitary waste at a construction site that may adversely impact water quality.

DISCHARGE of POLLUTANTS: the addition from any source of any pollutant or combination of pollutants into the municipal drain system or into the waters of the United States or Commonwealth.

DRAINAGE EASEMENT: A legal right granted by a landowner to a grantee allowing the use of private land for stormwater management purposes.

EROSION AND SEDIMENTATION CONTROL PLAN: A document containing narrative, drawings and details developed by a qualified Massachusetts licensed Professional Engineer (PE), which includes best management practices, or equivalent measures designed to control surface runoff, erosion and sedimentation during pre-construction and construction related land disturbance activities.

EROSION CONTROL: The prevention or reduction of the movement of soil particles or rock fragments due to stormwater runoff.

ESTIMATED HABITAT OF RARE WILDLIFE AND CERTIFIED VERNAL POOLS: Habitats delineated for state-protected rare wildlife and certified vernal pools for use with the Wetlands Protection Act Regulations (310 CMR 10.00) and the Forest Cutting Practices Act Regulations (304 CMR 11.00).

FLOODING: A local and temporary inundation or rise in the surface of a body of water, such that covers land not usually under water.

GRADING: Changing the level or shape of the ground surface.

GROUNDWATER: Water beneath the surface of the ground.

IMPOUNDMENT: A stormwater basin created by either constructing an embankment or excavating a pit which retains a permanent pool of water.

INFILTRATION: The act of conveying surface water into the ground to permit groundwater recharge and the reduction of stormwater runoff from a project site.

MASSACHUSETTS STORMWATER MANAGEMENT STANDARDS: The Standards as further defined by the Massachusetts Stormwater Handbook, issued by the Department of Environmental Protection, and as amended, that coordinates the requirements prescribed by the state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act (M.G.L. c. 131 §40) and Massachusetts Clean Waters Act (M.G.L.c. 21 § 23-56). The Standards address stormwater impacts through implementation of performance standards to reduce or prevent pollutants from reaching water bodies and control the quantity of runoff from a site.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER DISCHARGE PERMIT: A permit issued by United States Environmental Protection Agency or jointly with the Commonwealth of Massachusetts that authorizes the discharge of pollutants to waters of the United States.

OUTFALL: The point at which stormwater flows out from a point source. into waters of the Commonwealth of Massachusetts.

POINT SOURCE: Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

PRE-CONSTRUCTION: All activity in preparation for construction.

POLLUTANT: Anything which causes or contributes to pollution. Pollutants may include, but are not limited to the following: paints, varnishes, and solvents; oil, hydraulic fluid and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coli form and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

PRIORITY HABITAT OF RARE SPECIES: Habitats delineated for rare plant and animal populations protected pursuant to the Massachusetts Endangered Species Act and its regulations.

STABILIZATION: The use, singly or in combination, of mechanical, structural, or vegetative methods, to prevent or retard erosion.

STRIPPING: Any activity which removes the vegetative ground surface cover, including tree removal, clearing, grubbing, or removal of topsoil.

TOXIC OR HAZARDOUS MATERIAL OR WASTE: Any material which, because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately or in combination with any substance or substances, constitutes a

present or potential threat to human health, safety, welfare, or to the environment. Toxic or hazardous materials include any synthetic organic chemical, petroleum product, heavy metal, radioactive, acid and alkali, and any substance defined as “toxic” or “hazardous” under M.G.L. c. 21C and c. 21E, and the regulations at 310 CMR 30.000 and 310 CMR 40.0000.

TSS: Total Suspended Solids. Material, including but not limited to trash, debris, soils, sediment and sand suspended in stormwater runoff.

VERNAL POOLS: As defined by the Massachusetts Department of Environmental Protection in 310 CMR 10.00.

WATERS OF THE COMMONWEALTH: All waters within the jurisdiction of the commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, coastal waters, and groundwater.

3. AUTHORITY & APPLICABILITY

A. Authority

- 1) These Regulations are promulgated by the Town of Dunstable Planning Board in accordance with the STORMWATER MANAGEMENT BYLAW and the MUNICIPAL STORMWATER DISCHARGE BYLAW.
- 2) The intentions of these Regulations are for clarification purposes and not to replace, expand, modify any provision of the Bylaws, the Town of Dunstable Zoning Bylaw, Wetland Protection Bylaw, Subdivision Control Law or any other Regulations adopted thereunder.

B. Applicability

These Regulations apply to any construction activity that requires a Land Disturbance Permit, pursuant to Section 5 of the STORMWATER MANAGEMENT AND EROSION CONTROL BYLAW and any action that causes water to flow into the Municipal Storm drain System or waters of the United States or Commonwealth.

4. ADMINISTRATION

A. Enforcement.

The Planning Board, which is designated by Section 6 of the STORMWATER MANAGEMENT AND EROSION CONTROL BYLAW and Section 5 of the MUNICIPAL STORMWATER DISCHARGE BYLAW as the authorized enforcement agency, shall administer, implement, and enforce these Regulations. As authorized, any powers granted or duties imposed upon the Planning Board may be delegated in writing by the Planning Board and approved by the Board of Selectmen to other Town Departments, employees, or agents.

B. Waivers.

The Planning Board may waive strict compliance with any requirements of the Bylaw or these Regulations for the reasons given, and in accordance with the procedures set forth in Section 14 of the Bylaw.

- 1) All applicants must submit a written request to be granted such a waiver. Such a request

shall be accompanied by an explanation or documentation supporting the waiver request and demonstrating that strict application of the Bylaw does not further the purposes or objectives of the Bylaw.

- 2) All waiver requests shall be discussed and voted on at a meeting of the Planning Board.
- 3) If in the Planning Board's opinion, additional time or information is required for review of a waiver request, the Planning Board may continue the discussion to a certain date announced at the meeting.

C. Severability.

If any provision of these Regulations shall be held invalid for any reason, all other provisions shall continue in full force and effect.

D. Amendments.

The Planning Board may amend these Regulations after holding a public hearing. Notice of the time, place and subject matter shall be published in a newspaper of general circulation in the Town of Dunstable once, not less than 14 days before the day of such hearing.

5. TIER I LAND DISTURBANCE PERMIT PROCEDURES AND STANDARDS (GREATER THAN OR EQUAL TO 22,000 SQUARE FEET)

A. Application.

A completed application for a Tier I Land Disturbance Permit shall be filed with the Planning Board's Designated Agent. Approval must be obtained prior to commencement of land disturbing activity for an area as required. Applicants applying for a Tier I Land Disturbance Permit shall submit an Application package to include:

- 1) A completed Application Form with original signatures of all owners;
- 2) Three (3) copies of the narrative describing the proposal work including existing site conditions, proposed work and methods to mitigate any stormwater impacts.
- 3) Payment of the application and review fee.

B. Application Requirements and Performance Standards

1) Application Requirements.

The application for all Tier I Land Disturbance Permits shall contain sufficient information for the Planning Board's Designated Agent to evaluate the environmental impact, effectiveness, and acceptability of the measures proposed by the applicant to reduce adverse impacts from stormwater runoff during construction, and on a long-term basis.

2) Performance Standards.

Applicants shall retain as much of the first one (1) inch of runoff on-site as is practicable and, to the extent it is not practicable for a portion of the runoff, that portion shall meet the requirements below to the maximum extent practicable. Practicable shall be defined as available and capable of being done after taking into consideration costs, existing technology, proposed use, and logistics in light of overall project purposes. Project purposes shall be defined generally (e.g., single family home or expansion of a commercial development).

- a. Comply with the Massachusetts Stormwater Management Standards as further defined in the Massachusetts Stormwater Handbook. To the extent that the project will discharge, directly or indirectly, to a water body subject

to one or more pollutant-specific Total Maximum Daily Loads (TMDLs), implement structural and non-structural stormwater best management practices (BMPs) that are consistent with each such TMDL.

- b. Avoid disturbance of areas susceptible to erosion and sediment loss.
- c. Use LID techniques where adequate soil, groundwater and topographic conditions allow. These may include but not be limited to reduction in impervious surfaces, disconnection of impervious surfaces, bio-retention (rain gardens) and infiltration systems.

C. Information request.

The applicant shall submit all additional information requested by the Planning Board's Designated Agent to issue a decision on the application.

D. Determination of Completion.

The Planning Board's Designated Agent shall make a determination as to the completion and adequacy of the materials submitted. No review shall take place until the application has been found to be complete. Time periods listed in the Bylaw shall start the day following the determination to accept the complete application.

E. Action by Planning Board's Designated Agent.

The Planning Board's Designated Agent shall take final action on the application within 60 days of acceptance of a complete application but not before the Road Commission and Town Engineer have had 30 days to review and comment on the application. The time for final action may be extended by written agreement between the applicant and the Planning Board's Designated Agent. The Agent may:

- 1) Approve the application and issue a Land Disturbance Permit upon finding the proposed stormwater controls meet the objectives and requirements of the Bylaw and these Regulations;
- 2) Approve the application and issue a Land Disturbance Permit with conditions necessary to ensure that the project's stormwater controls will meet the objectives and requirements of the Bylaw and these Regulations;
- 3) Disapprove the application and deny a permit if it finds (a) that the proposed stormwater controls fail to meet the objectives and requirements of the Bylaw or these Regulations; or
- 4) Disapprove the application "without prejudice" where an applicant fails to provide requested additional information or review fees that in the Planning Board's Designated Agent's opinion is needed to adequately describe or review the proposed project.

F. Fee Structure.

Each application must be accompanied by the appropriate application fee as established by the Planning Board. Applicants shall pay review fees as determined by the Planning Board sufficient to cover any expenses connected with the review of the Land Disturbance Permit Application before the review process commences. The Planning Board's Designated Agent is authorized to retain a Registered licensed Massachusetts Professional Engineer or other professional consultant to advise

the Planning Board's Designated Agent on any or all aspects of the Application.

G. Project Changes.

The permittee, or their agent, must notify the Planning Board's Designated Agent in writing of any change or alteration of a land-disturbing activity authorized in a Tier I Land Disturbance Permit before any change or alteration occurs. If the Planning Board's Designated Agent determines that the change or alteration is significant, based on the design requirements listed in Section 6 of these Regulations and accepted construction practices, the Planning Board's Designated Agent may require a Tier II Land Disturbance Permit Application be filed. If any change or alteration from the Tier I Land Disturbance Permit occurs during any land disturbing activities, the Planning Board's Designated Agent may require the installation of interim erosion and sedimentation control measures before approving the change or alteration.

**6. TIER II LAND DISTURBANCE PERMIT AND PROCEDURES
(GREATER THAN OR EQUAL TO 40,000 SQUARE FEET)**

A. Application.

A completed application for a Tier II Land Disturbance Permit shall be filed with the Planning Board's Designated Agent. A permit must be obtained prior to the commencement of land disturbing activity that may result in the disturbance of an area listed in the Bylaw. Persons applying for a Tier II Land Disturbance Permit shall obtain that permit before receiving a building or local development permit. The Tier II Land Disturbance Permit Application package shall include:

- 1) A completed Application Form with original signatures of all owners;
- 2) A list of abutter within 300 feet of the property, certified by the Assessor's Office;
- 3) Narrative describing the proposal work including existing site conditions, proposed work and methods to mitigate any stormwater impacts.
- 4) Nine (9) copies of a plan that include:
 - a. Existing site features including structures, pavements, plantings, and stormwater management systems etc.,
 - b. Proposed work including proposed stormwater management systems and limits of disturbance,
 - c. Erosion and Sedimentation controls.
- 5) Nine (9) copies of the
 - a. Stormwater Management Plan,
 - b. Erosion and Sediment Control Plan,
 - c. Operation and Maintenance Plan.
- 6) Payment of the application and review fees.

B. Performance Standards.

- 1) Applicants shall retain as much of the first one (1) inch of runoff on-site as is practicable and, to the extent it is not practicable for a portion of the runoff, that portion shall meet the requirements below to the maximum extent practicable. Practicable shall be defined as available and capable of being done after taking into consideration costs, existing technology, proposed use, and logistics in light of overall project purposes. Project purposes shall be defined generally (e.g., single family home or expansion of a commercial development). Comply with the Massachusetts Stormwater Management Standards as further defined in the Massachusetts Stormwater Handbook.

- 2) To the extent that the project will discharge, directly or indirectly, to a water body subject to one or more pollutant-specific Total Maximum Daily Loads (TMDLs), implement structural and non-structural stormwater best management practices (BMPs) that are consistent with each such TMDL.
- 3) Avoid disturbance of areas susceptible to erosion and sediment loss.
- 4) Use LID techniques where adequate soil, groundwater and topographic conditions allow. These may include but not be limited to reduction in impervious surfaces, disconnection of impervious surfaces, bio-retention (rain gardens) and infiltration systems.

C. Information requests.

The applicant shall submit all additional information requested by the Planning Board's Designated Agent to issue a decision on the application.

D. Fee Structure.

Each application must be accompanied by the appropriate application fee as established by the Planning Board. Applicants shall pay review fees as determined by Planning Board sufficient to cover any expenses connected with the review of the Tier II Land Disturbance Permit Application before the review process commences. The Planning Board is authorized to retain a Massachusetts Registered Professional Engineer and any other professional consultant needed to advise the Planning Board on any or all aspects of the Application.

E. Determination of Completion.

The Planning Board or its agents shall make a determination and vote on the application as to the completion and adequacy of the materials submitted. No review shall take place until the application has been found complete. Time periods listed in the Bylaw shall start the day following the vote by the Planning Board to accept the complete application.

F. Other Boards and Town staff.

The Planning Board shall notify the Town Clerk of receipt of the application, and shall give one copy of the application package to the Conservation Commission, the Road Commissioners and the Town Engineer for review and comment.

G. Action by Planning Board.

The Planning Board shall take final action on the application within 60 days of acceptance of a complete application but not before the Road Commission and Town Engineer have had 30 days to review and comment on the application. The time for final action may be extended by written agreement between the applicant and the Planning Board. Planning Board may:

- 1) Approve the application and issue a Land Disturbance Permit upon finding that the proposed stormwater controls meet the objectives and requirements of the Bylaw and these Regulations;
- 2) Approve the application and issue a Land Disturbance Permit with conditions necessary to ensure that the project's stormwater controls will meet the objectives and requirements of the Bylaw and these Regulations;
- 3) Disapprove the application and deny a permit if it finds (a) that the proposed stormwater controls fail to meet the objectives and requirements of the Bylaw or these Regulations; or
- 4) Disapprove the application "without prejudice" where an applicant fails to provide requested additional information or review fees that in the Planning Board's opinion is needed to adequately describe or review the proposed project.

H. Final Approval.

A formal acknowledgement of the final approval shall be endorsed on the Tier II Land Disturbance Permit by the signature of the majority of the Planning Board (or by the signature of the person officially authorized by the Board).

I. Project Changes.

The permittee, or their agent, must notify the Planning Board in writing of any change or alteration of a land-disturbing activity authorized in a Land Disturbance Permit before any change or alteration occurs. If Planning Board determines that the change or alteration is significant, based on the design requirements listed in Section 6 of these Regulations and accepted construction practices, the Planning Board may require that an amended Tier II Land Disturbance Permit application be filed. If any change or alteration from the Tier II Land Disturbance Permit occurs during any land disturbing activities, the Planning Board may require the installation of interim erosion and sedimentation control measures before approving the change or alteration.

7. STORMWATER MANAGEMENT PLAN FOR PERMIT APPLICATIONS

- A. The application for a Tier II Land Disturbance Permit shall include the submittal of a Stormwater Management Plan to the Planning Board. This Stormwater Management Plan shall contain sufficient information for the Planning Board to evaluate the environmental impacts, effectiveness, and acceptability of the site planning process and the measures proposed by the applicant to reduce adverse impacts from stormwater runoff during construction, and on a long term basis.
- B. The Plan shall be designed to meet the Massachusetts Stormwater Management Standards as further defined in the Massachusetts Stormwater Handbook and any additional standards required by the Stormwater Management and Erosion Control Bylaw or these Regulations adopted there under. To the extent that any project within the jurisdiction of the Bylaw is located in an area subject to one or more pollutant-specific Total Maximum Daily Loads (TMDLs), such project is required to implement structural and non-structural stormwater best management practices (BMPs) that are consistent with each such TMDL and its associated Water Load Allocation (for point sources) and Load Allocation (for nonpoint sources). The Planning Board may develop, publish and periodically revise one or more pollutant-specific guidance documents describing the geographic applicability of each TMDL and identifying the BMPs that individually or in combination are considered to be consistent with the TMDL(s).
- C. This Plan shall be designed to meet the following requirements contained in the latest version of the EPA's MS4 General Permit for Massachusetts section on Construction Site Stormwater Runoff Controls and Post-Construction Stormwater Management.
 - 1) Retain the first one (1) inch of runoff from all impervious surfaces on the site, or provide the level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration on the first one (1) inch of runoff from all impervious surfaces on site. This standard shall be met through a combination of practices designed to retain runoff on site. The level of pollutant removal from BMPs shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool <https://www.epa.gov/tmdl/opti-tool-epa-region-1s-stormwater-management->

[optimization-tool](#) Pollutants not covered in the BMP Performance Extrapolation Tool, and thus whose capacity to remove such pollutants cannot be quantitatively calculated, must also comply with the requirements of this subsection.

BMPs must be chosen to maximize reduction of pollutants for which the receiving waters of the MS4 catchment do not currently comply with state Water Quality Standards, with preference given to BMPs that maximize the reduction of a pollutant(s) covered by a TMDL(s). The Town of Dunstable has requirements specifically for discharges to water quality limited waterbodies and their tributaries where phosphorus is the cause of the impairment. BMPs proposed shall be optimized for phosphorus removal to the maximum extent feasible. BMPs must be selected and designed using the appropriate criteria from the most recent Massachusetts Stormwater Handbook. For other structural stormwater controls not included in the Handbook for which approximate pollutant removal capabilities have not been provided, the pollutant removal effectiveness must be documented through prior studies, literature reviews, or other means and receive approval from the Planning Board. The Board may issue one or more guidance's identifying BMPs or combinations of BMPs that will maximize reduction of each pollutant of concern.

- 2) Stormwater management systems designed on sites with documented soil contamination or management systems designed on commercial and/or industrial sites shall not include BMPs that promote infiltration and shall instead require use of treatment BMPs on-site.
- 3) Stormwater management systems designed to include infiltration near environmentally sensitive areas, including public water supplies, interim wellhead protection areas, and Zones II, A, B, and C, swimming beaches, and cold water fisheries, shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event. In order to protect these resources, any stormwater management system designed to infiltrate stormwater near environmentally sensitive areas must, prior to infiltration, provide the level of pollutant removal equal to or great than the level provided through the use of biofiltration of the same volume of runoff.
- 4) All BMPs installed as part of the site's stormwater management system shall be selected and constructed in accordance with the Massachusetts Stormwater Handbook Volume 2 Chapter 2.
- 5) The stormwater management system shall include the development of a long term operation and maintenance plan to inspect and repair installed BMPs to ensure that they are functioning according to manufacturer or design specifications.
- 6) Stormwater management systems shall be designed to avoid disturbance of areas susceptible to erosion and sediment loss.
- 7) Permittee's shall submit both PDF and AutoCAD digital files and a hard copy as-built drawing no later than one year after completion of construction projects. The as-built drawings must depict all on-site controls; both structural and non-structural designed to manage stormwater associated with the completed site.

- D. The Stormwater Management Plan shall fully describe the project in narrative, drawings, and calculations. It shall at a minimum include:
- 1) Contact Information. The name, address, and telephone number of all persons having a legal interest in the property and the tax reference number and parcel number of the property or properties affected,
 - 2) Narrative describing:
 - a. Purpose
 - b. Methodologies and assumptions
 - c. Existing and proposed uses and conditions
 - d. Project impacts and mitigation techniques including:
 - i. Summary of proposed land area to be cleared, proposed impervious area, work within proximity of regulated wetland resources, aquifer protection zones, earthwork within 4 feet of seasonal high groundwater elevations, and other sensitive environmental areas.
 - ii. Low Impact Development (LID) techniques considered for this project and an explanation as to why they were included or excluded from the project.
 - iii. Best management practices proposed for this project.
 - iv. Identifying the immediate down gradient waterbody(s) that stormwater runoff from the project site discharges to, EPA's waterbody assessment and TMDL status of the waterbody(s), <http://www.epa.gov/region1/npdes/stormwater/ma.html> and the LIDs and BMPs included in the project to address the pollutant(s) of concern.
 - e. Summary of pre and post development peak rates and volumes of stormwater runoff to show no adverse impacts to down-gradient properties, stormwater management systems and wetland resources.
 - f. Conclusions
 - 3) Plans
 - a. Portion of the USGS Map indicating the site locus and properties within a minimum of 500 feet of project property line.
 - b. Existing conditions and proposed design plans showing:
 - i. Buildings and/or structures including materials and approximate height.
 - ii. Utilities including size, material and invert data.
 - iii. Regulated wetland resource areas within proximity of the site.
 - c. Stormwater management design plan(s) and details showing:
 - i. Location, size, material, inverts data and details for all existing and proposed stormwater management system components including structures, pipes, swales, detention, retention, and infiltration systems and any other LID techniques or BMPs.
 - ii. Profiles of drainage lines.
 - iii. Drainage easements.
 - d. Separate Pre and Post Condition Watershed Plans indicating:
 - i. Structures, pavements, surface vegetation and other round cover materials.
 - ii. Topography sufficient to delineate watershed areas

- iii. Point(s) of analysis
- iv. Watershed areas including upgradient areas that contribute stormwater flow onto the project site, labeled to be easily identified in calculations where total pre and post watershed area should be equivalent.
- v. Breakdown summary of various surface conditions by soil hydrologic group rating.
- vi. Flow path for time of concentration (Tc) calculation.

4) Calculations

- a. Hydrologic calculation to determine pre and post peak rates and volumes of stormwater runoff for 2, 10 and 100 year 24 hour storm events. The calculations shall be based on the Extreme Precipitation Estimates as published by the Northeast Regional Climate Center.
- b. Groundwater recharge calculations and BMP drawdown (time to empty).
- c. Water quality calculations including (if applicable):
 - i. TSS removal calculation for each watershed
 - ii. Specific BMPs utilized in critical areas
 - iii. Specific BMPs utilized for land uses of higher potential pollutant loads
 - iv. Specific treatment for pollutant causing impairment of down-gradient waterbody identified by EPA and MassDEP
- d. Hydraulic calculations to size drainage pipes, swales and culverts.
- e. Supplemental calculations for sizing LID and BMPs and addressing impairments to water bodies.
- f. Soil mapping and test data.
- g. MassDEP Checklist for Stormwater Report completed, stamped and signed by a Massachusetts Professional Engineer (PE) licensed in the Commonwealth of Massachusetts to certify that the Stormwater Management Plan is in accordance with the criteria established in the MassDEP Stormwater Management Standards, Town of Dunstable Stormwater Management Bylaw and these regulations.
- h. Any other information requested by the Planning Board.

8. EROSION AND SEDIMENTATION CONTROL PLAN OF PERMIT APPLICATIONS

- A. The Erosion and Sediment Control Plan shall be designed to ensure compliance with these Regulations and if applicable, the NPDES General Permit for Stormwater discharges from construction activities. In addition, the plan shall ensure that the Massachusetts Surface Water Quality Standards (314 CMR 4.00) are met in all seasons.
- B. If a project requires a Stormwater Pollution Prevention Plan (SWPPP) per NPDES General Permit for stormwater discharges from construction activities and as amended, then the permittee is required to submit a complete copy of the SWPPP, including the Notice of Intent and approval letter. If the SWPPP meets the requirements of the General Permit, it will be considered equivalent to the Erosion and Sediment Control Plan described in this section.
- C. The Erosion and Sediment Control Plan shall remain on file with the Planning Board. Refer to the latest version of the Massachusetts Erosion and Sediment Control Guidelines for Urban and Suburban Areas for detailed guidance.

- D. The Erosion and Sediment Control Plan shall contain sufficient information to describe the nature and purpose of the proposed development, pertinent conditions of the site and the adjacent areas, and proposed erosion and sedimentation controls which include BMPs appropriate to site conditions, including efforts to minimize the areas of land disturbance. The plan shall also describe measures to control construction wastes including but not limited to construction materials, concrete truck wash out, chemicals, litter, and sanitary waste. The applicant shall submit such material as is necessary to show that the proposed development will comply with the design requirements listed in Section 6 of these Regulations. Stormwater systems shall be designed to avoid disturbances of areas susceptible to erosion and sediment loss. This means avoiding to the greatest extent practicable: the damaging of large forest stands; building on steep slopes that are 15% or greater; and disturbing land in wetland buffer zones and floodplains.
- E. Erosion and Sedimentation Control Plan Content. The Plan shall contain the following information:
1. Names, addresses, and telephone numbers of the owner, applicant, and person(s) or firm(s) preparing the plan;
 2. Title, date, north arrow, names of abutters, scale, legend, and locus map;
 3. Location and description of natural features including:
 - a. Watercourses and water bodies, wetland resource areas and all floodplain information, including the 100-year flood elevation based upon the most recent Flood Insurance Rate Map, or as calculated by a Massachusetts Professional Engineer for areas not assessed on these maps;
 - b. Existing vegetation including tree lines, canopy layer, shrub layer, and ground cover, and trees with a caliper twelve (12) inches or larger, noting specimen trees and forest communities; and
 - c. Habitats mapped by the Massachusetts Natural Heritage & Endangered Species Program as Endangered, Threatened or of Special Concern, Estimated Habitats of Rare Wildlife and Certified Vernal Pools, and Priority Habitats of Rare Species within five hundred (500) feet of any construction activity.
 4. Lines of existing abutting streets showing drainage and driveway locations and curb cuts;
 5. Existing soils, volume and nature of imported spoil materials;
 6. Topographical features including existing and proposed contours at intervals no greater than two (2) feet with spot elevations provided when needed;
 7. Surveyed property lines showing distances and monument locations, all existing and proposed easements, right-of-way, and other encumbrances, the size of the entire parcel, and the delineation and number of square feet of the land area to be disturbed;
 8. Drainage patterns and approximate slopes anticipated after major grading activities (Construction Phase Grading Plans);
 9. Location and details of erosion and sediment control measures with a narrative of the construction sequence of the project, including both operation and maintenance for structural and non-structural measures, interim grading, material stockpiling areas;
 10. Path and mechanism to divert uncontaminated water around disturbed areas, to the maximum extent practicable;

11. Location and description of industrial discharges, including stormwater discharges from dedicated asphalt plants and dedicated concrete plants, which are covered by this permit;
12. Stormwater runoff calculations in accordance with the Dunstable Planning Board's Rules and Regulations Governing the Subdivision of Land;
13. Location and description of and implementation schedule for temporary and permanent seeding, vegetative controls, and other stabilization measures;
14. A description of construction and waste materials expected to be stored on-site. The Plan shall include a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;
15. A description of provisions for phasing the project where 40,000 square feet of area or greater is to be altered or disturbed;
16. Plans must be stamped and certified by a qualified Massachusetts Professional Engineer; and
17. Such other information as is required by the Planning Board.

9. OPERATION AND MAINTENANCE PLAN FOR PERMIT APPLICATIONS

- A. A stand-alone Operation and Maintenance Plan (O&M Plan) is required at the time of application for all projects with constructed stormwater BMPs and stormwater management practices. The O&M Plan shall be designed to ensure compliance with the Permit and these regulations. The O&M Plan shall remain on file with the Planning Board and shall be an ongoing requirement. The Applicant shall provide copies of the O&M Plan to all persons responsible for maintenance and repairs.
- B. The O&M Plan shall include:
 1. The name(s) of the owner(s) for all components of the system;
 2. A map showing the location of the systems and facilities including all structural and nonstructural stormwater best management practices (BMPs), catch basins, manholes/access lids, pipes, and other stormwater devices. The plan showing such systems and facilities to be privately maintained, including associated easements shall be recorded with the Middlesex North Registry of Deeds prior to issuance of a Certificate of Compliance by the Planning Board.
 3. Maintenance Agreement with the Planning Board that specifies:
 - a. The names and addresses of the person(s) responsible for operation and maintenance;
 - b. The person(s) financially responsible for maintenance and emergency repairs;
 - c. An Inspection and Maintenance Schedule for all stormwater management facilities including routine and non-routine maintenance tasks to be performed. Where applicable, this schedule shall refer to the Maintenance Criteria provided in the Massachusetts Stormwater Handbook or the EPA National Menu of Stormwater BMPs <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#> or equivalent;
 - d. Instructions for routine and long-term operation and maintenance shall have sufficient detail for responsible parties to perform necessary maintenance activities and prevent actions that may adversely affect the performance of each structural and/or nonstructural stormwater BMP.

- e. A list of easements with the purpose and location of each; and
 - f. The signature(s) of the owner(s) and all persons responsible for operation and maintenance, financing, and emergency repairs, as defined in the Maintenance Agreement, if maintenance is to be performed by an entity other than the owner.
4. Stormwater Management Easement(s)
- a. Stormwater Management easements shall be provided by the property owner(s) as necessary for:
 - i. Access for facility inspections and maintenance;
 - ii. Preservation of stormwater runoff conveyance, infiltration, and detention area and facilities, including flood routes of the 100-year storm event; and
 - iii. Direct maintenance access by heavy equipment to structures requiring maintenance.
 - b. The purpose of each easement shall be specified in the Maintenance Agreement signed by the property owner.
 - c. Stormwater Management easements are required for all areas used for permanent stormwater control.
 - d. Easements shall be recorded with the Middlesex Northern Registry of Deeds prior to issuance of a Certificate of Compliance.
5. Changes to Operation and Maintenance Plans
- a. The owner(s) of record of the Stormwater Management System must notify the Planning Board or its Designated Agent of changes in ownership, assignment of Operation and Maintenance responsibilities, or assignment of financial responsibility within 30 days of the change. The owner of record shall be responsible for Operation and Maintenance activities until a copy of the updated Operation and Maintenance Plan has been furnished to the Planning Board or its Designated Agent signed by the new owner or any new responsible person.
 - b. The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of the Stormwater Management and Erosion Control Bylaw by mutual agreement of the Planning Board or its Designated Agent and the Responsible Parties. Amendments must be in writing and signed by all Responsible Parties. Responsible Parties shall include owner(s), persons with financial responsibility, and persons with operational and/or maintenance responsibility.
6. Ensuring compliance with Operation and Maintenance Plans
- To ensure adequate long-term operation and maintenance of stormwater management practices, applicants are required to implement one or more of the following alternatives, as directed by the Planning Board.
- a. Filing by the applicant of an annual Operation and Maintenance Report with the Planning Board on a form established by the Authority, accompanied by an annual filing fee established by the Planning Board to finance its efforts to track compliance with the operation and maintenance requirements of stormwater permittees.
 - b. Establishment by the applicant of a dedicated fund or escrow account in the form of a Bond, Insurance Policy or similar instrumentality, to be maintained for a number of years and for an amount specified by the Planning Board. Such

fund or account may be used by the applicant to perform its operation and maintenance responsibilities or, if the Planning Board finds that the applicant has fallen behind in such responsibilities, by the Authority to perform or cause to be performed the required operation and maintenance tasks;

- c. Submission by the applicant of an annual certification documenting the work that has been done over the last 12 months to properly operate and maintain the stormwater control measures. The certification shall be signed by the person(s) named in the permit as being responsible for ongoing O&M; if such person(s) works for a company, the head of the company must sign the certification.
- d. Recording of Operation and Maintenance Plans at the appropriate Registry of Deeds or Land Court.

10. PERFORMANCE AND DESIGN STANDARDS FOR PERMIT APPLICANTS

- A. Design of stormwater management system(s) and components
 1. Developments are to be designed to provide for adequate collection and disposal of stormwater runoff from the project site in accordance with MassDEP Stormwater Management Standards, Dunstable Planning Board's Rules and Regulations Governing the Subdivision of Land, recognized engineering methodologies and these Regulations with an emphasis to include Low Impact Development (LID) techniques in the design. Provisions are to be made for the adequate disposal of surface runoff so that no increase in flow is conducted over Town ways, or over land not owned by or controlled by the Applicant unless an easement in proper form is obtained permitting such discharge.
 2. LID techniques are to be used where adequate soil, groundwater and topographic conditions allow. These may include but not be limited to reduction in impervious surfaces, disconnection of impervious surfaces, bioretention (rain gardens) and infiltration systems. Applicants for permits under the Bylaw must consider environmentally sensitive site design and low impact development techniques to manage stormwater, including decentralized systems in place of a centralized system. Projects subject to the Bylaw may propose, and the Planning Board may approve the "LID Site Design Credits" described in Volume 3, Chapter 1 of the Massachusetts Stormwater Management Handbook beginning on page 42, as may be amended in the future. The Planning Board may allow projects to reduce or eliminate the traditional BMPs used to treat and infiltrate stormwater in accordance with the Handbook's "LID Site Design Credits."
 3. Hydrologic calculations and design of the stormwater management system shall conform to the criteria in the Planning Board's Rules and Regulations Governing the Subdivision of Land.
 4. Outfalls are to be designed to prevent erosion of soils and pipes 24 inches or larger are to be fitted with grates or bars to prevent ingress.
 5. Drainage easements are to provide sufficient access for maintenance and repairs of system components and be at least 20 feet wide.
 6. Minimize permanently dewatering soils by:
 - a. Limiting grading within 4 feet of seasonal high groundwater elevation (SHGWE);
 - b. Raising roadways to keep roadway section above SHGWE; and

- c. Setting bottom floor elevation of building(s) a minimum of 2 feet above SHGWE.
- B. Design of erosion controls(s) should include the following:
 1. Minimize total area of disturbance;
 2. Sequence activities to minimize simultaneous areas of disturbance;
 3. Minimize peak rate of runoff in accordance with the MassDEP Stormwater Standards or the Planning Board's Rules and Regulations Governing the Subdivision of Land whichever is stricter;
 4. Minimize soil erosion and control sedimentation during construction;
 5. Divert uncontaminated water around disturbed areas;
 6. Maximize groundwater recharge;
 7. Install and maintain all Erosion and Sediment Control measures in accordance with the Massachusetts Erosion and Sedimentation Control Guidelines for Urban and Suburban Areas, manufacturers specifications and good engineering practices;
 8. Prevent off-site transport of sediment;
 9. Protect and manage on and off-site material storage areas (overburden and stockpiles of dirt, borrow areas, or other areas used solely by the permitted project are considered a part of the project):
 10. Comply with applicable Federal, State and local laws and regulations including waste disposal, sanitary sewer or septic system regulations, and air quality requirements, including dust control;
 11. Prevent significant alteration of habitats mapped by the Massachusetts Natural Heritage & Endangered Species Program as Endangered, Threatened or of Special Concern, Estimated Habitats of Rare Wildlife and Certified Vernal Pools, and Priority Habitats of Rare Species from the proposed activities;
 12. Institute interim and permanent stabilization measures, which shall be instituted on a disturbed area as soon as practicable but no more than 14 days after construction activity has temporarily or permanently ceased on that portion of the site;
 13. Properly manage on-site construction and waste materials, including truck washing and cement concrete washout facilities; and
 14. Prevent off-site vehicle tracking of sediments.

11. INSPECTION AND SITE SUPERVISION FOR PERMIT APPLICANTS.

- A. Pre-construction Meeting. Prior to starting the clearing, excavation, construction, redevelopment or land disturbing activity, the applicant, the applicant's technical representative, the general contractor or any other person with authority to make changes to the project, may be required to meet with the Planning Board or its Designated Agent, to review the approved plans and their implementation. The need for a pre-construction meeting shall be determined by the Planning Board or its Designated Agent based on the project scope.

- B. Inspection. The Planning Board or its Designated Agent shall make inspections as hereinafter required and shall either approve that portion of the work completed or shall notify the applicant in writing wherein the work fails to comply with the Erosion and Sedimentation Control Plan or the Stormwater Management Plan as approved. The approved Erosion and Sedimentation Plan and associated plans for grading, stripping, excavation, and filling work, bearing the signature of approval of the Planning Board or its Designated Agent, shall be maintained at the site during the progress of the work. In order to obtain inspections, the applicant shall notify the Planning Board or its Designated Agent at least two (2) working days before each of the following events:
1. Erosion and sedimentation control measures are in place and stabilized;
 2. Site clearing has been substantially completed;
 3. Rough grading has been substantially completed;
 4. Final Grading has been substantially completed;
 5. Close of the Construction Season; and,
 6. Final landscaping/permanent stabilization and project final completion.
- For phased projects, events 1-6 above shall occur for each phase.
- C. Applicant Inspections. The applicant or his/her agent shall conduct and document inspections of all control measures no less than weekly or as specified in the permit, and prior to and following anticipated storm events. The purpose of such inspections will be to determine the overall effectiveness of the Erosion and Sedimentation Control Plan, and the need for maintenance or additional control measures as well as verifying compliance with the Stormwater Management Plan. The applicant or his/her agent shall submit monthly reports to the Planning Board or Designated Agent in a format approved by the Planning Board or its Designated Agent.

12. SURETY FOR PROJECTS REQUIRING PERMITS.

The Planning Board or its Designated Agent may require the permittee to post, before the start of land disturbance activity, a surety bond, irrevocable letter of credit, cash, or other acceptable security. The form of the bond shall be approved by Town Counsel, and be in an amount deemed sufficient to ensure that the work will be completed in accordance with the permit. If the project is phased, the Planning Board or its Designated Agent may release part of the bond as each phase is completed in compliance with the permit but the bond may not be fully released until Planning Board or its Designated Agent has received the final report as required by Section 13 and issued a Certificate of Completion.

13. FINAL REPORTS FOR PROJECTS REQUIRING PERMITS.

Upon completion of the work, the permittee shall submit a report including certified as-built construction plans from a Massachusetts Professional Engineer, certifying that all erosion and sediment control devices, and approved changes and modifications, have been completed in accordance with the conditions of the approved permit. Any discrepancies should be noted in the cover letter. As-Built information shall be provided as follows:

- A. As-Built Plans shall be based on a field survey. Information that cannot be easily obtained by a field survey (such as location or depth of newly constructed waterlines or pressure pipes) should be obtained from the contractor's marked up record drawings.

- B. Plans should be a re-creation of the final site plan and stamped or labeled as “As-Built” and all changes from the approved plans should be shown.
- C. As-Built plans shall include all information included in the most recent version of the As-Built Plan Checklist.
- D. Review of the As-Built Plans will be inclusive of all building locations, property boundaries, site work, utilities, stormwater management systems and all pertinent information consistent with the approved site plan.

14. CERTIFICATE OF COMPLETION FOR PROJECTS REQUIRING PERMITS.

Once the report and as-built plan are submitted the Planning Board shall review the plan for conformance with the approved plan, conditions of approval and approved modifications. The Planning Board shall then perform a site inspection to confirm that the plan adequately reflects the conditions in the field. The Planning Board will issue a letter certifying completion upon receipt and approval of the final reports and as-built plan and/or upon otherwise determining that all work of the permit has been satisfactorily completed in conformance with the Bylaw and these Regulations.

15: ILLICIT DISCHARGES TO THE MUNICIPAL STORM DRAIN SYSTEM AND TO WATERCOURSES OR WATERS OF THE COMMONWEALTH

A. Prohibited Activities

- 1 Illicit Discharges - No person shall dump, discharge, spill, cause or allow to be discharged any pollutant or non-stormwater discharge into the municipal storm drain, onto an impervious surface directly connected to the municipal storm drain or directly or indirectly, into a watercourse or waters of the Commonwealth.
2. Illicit Connections - No person shall construct, use, allow, maintain or continue any illicit connection to the municipal storm drain system, regardless of whether the connection was permissible under applicable law, regulation or custom at the time of connection.
3. Obstruction of the Municipal Storm Drain System - No person shall obstruct or interfere with the normal flow of stormwater into or out of the municipal storm drain system without prior approval from the Planning Board

B. Additional Prohibited Pollutants

1. Pet Waste: Because dog feces are a major component of stormwater pollution, it shall be the duty of each person who owns, possesses, or controls a dog to remove and properly dispose of any feces left by the dog on any public or private property neither owned nor occupied by said person.
2. Pavement Sealers: Poly-aromatic hydrocarbons are classified by the US Environmental Protection Agency as a probable human carcinogen and are highly toxic to aquatic life. Asphalt-based driveway and pavement sealers contain low concentrations of poly-aromatic hydrocarbons. Therefore, application of coal tar based driveway and pavement sealers is prohibited for all paved areas directly connected to the storm drain

C. Emergency Suspension of Storm Drain System Access

1. The Planning Board may suspend municipal storm drain system access to any person or property without prior written notice when such suspension is necessary to stop an actual or threatened discharge of pollutants that presents imminent risk of harm to public health, safety, welfare or the environment.

2. In the event any person fails to comply with an emergency suspension order, the Authorized Enforcement Agency may take all reasonable steps to prevent or minimize harm to the public health, safety, welfare, or the environment.

D. Notification of Spills

1. Notwithstanding other requirements of local, state or federal law, as soon as a person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of or suspects a release of materials at that facility or operation resulting in or which may result in discharge of pollutants to the municipal drainage system or waters of the Commonwealth, the person shall take all necessary steps to ensure containment and cleanup of the release.

2. In the event of a release of oil or hazardous materials, the person shall immediately notify the Dunstable Fire and Police Departments and MassDEP's Emergency Response.

3. In the event of a release of nonhazardous material, the reporting person shall notify the issuing authority, no later than the next business day. The reporting person shall provide to the Planning Board written confirmation of all telephone, facsimile, email or in-person notifications within three business days thereafter.

4. If the discharge of prohibited materials is from a commercial or industrial facility, the facility owner or operator of the facility shall retain on site a written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years and made available to the Planning Board upon request.

16. Enforcement

The Planning Board is the enforcing agent for the provisions of these regulations. The Planning Board may pursue all civil and criminal remedies for violations. The Planning Board may issue Enforcement Orders for violations and pursue any and all other procedures listed in the Bylaw.

17: Severability

If any provision, paragraph, sentence, or clause, of these Regulations shall be held invalid for any reason, all other provisions shall continue in full force and effect.